SLOVENSKI STANDARD
SIST EN 61850-4:2011/A1:2021

01-februar-2021

Komunikacijska omrežja in sistemi za avtomatizacijo porabe električne energije - 4. del: Sistemsko in projektno upravljanje - Dopolnilo A1

Communication networks and systems for power utility automation - Part 4: System and project management

Kommunikationsnetze und -systeme in Stationen - Teil 4: System- und Projektverwaltung

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques - Partie 4: Gestion du système et gestion de projet

Ta slovenski standard je istoveten z: **EN 61850-4:2011/A1:2020**

ICS:

29.240.30	Krmilna oprema za elektroenergetske sisteme	Control equipment for electric power systems
33.200	Daljinsko krmiljenje, daljinske meritve (telemetrija)	Telecontrol. Telemetering

SIST EN 61850-4:2011/A1:2021 **en**

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61850-4:2011/A1

December 2020

ICS 33.200

English Version

Communication networks and systems for power utility automation - Part 4: System and project management (IEC 61850-4:2011/A1:2020)

Réseaux et systèmes de communication pour
l'automatisation des systèmes électriques - Partie 4:
Gestion du système et gestion de projet
(IEC 61850-4:2011/A1:2020)

Kommunikationsnetze und -systeme für die
Automatisierung in der elektrischen Energieversorgung -
Teil 4: System- und Projektverwaltung
(IEC 61850-4:2011/A1:2020)

This amendment A1 modifies the European Standard EN 61850-4:2011; it was approved by CENELEC on 2020-12-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 61850-4:2011/A1:2020 E

EN 61850-4:2011/A1:2020 (E)

European foreword

The text of document 57/2256/FDIS, future IEC 61850-4/A1, prepared by IEC/TC 57 "Power systems management and associated information exchange" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61850-4:2011/A1:2020.

The following dates are fixed:

•	latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2021-09-08
•	latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2023-12-08

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61850-4:2011/A1:2020 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Replace the existing reference to IEC 61850-6 with the following reference:

Publication	Year	Title	EN/HD	Year
IEC 61850-6	-	Communication networks and systems for power utility automation - Part 6: Configuration description language for communication in electrical substations related to IEDs	EN 61850-6	-

Delete the references to IEC 81346-1 and IEC 81346-2.

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IEC 61850-4

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INTERNATIONAL STANDARD

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inside

AMENDMENT 1
AMENDEMENT 1

Communication networks and systems for power utility automation –
Part 4: System and project management

Réseaux et systèmes de communication pour l'automatisation des systèmes
électriques –
Partie 4: Gestion du système et gestion de projet

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FOREWORD

This amendment has been prepared by IEC technical committee 57: Power systems 2 management and associated information exchange.

The text of this amendment is based on the following documents:

FDIS	Report on voting
57/2256/FDIS	57/2271/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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1 Scope

Replace the existing text of the first paragraph of the scope with the following new text:

This part of IEC 61850 applies to projects associated with processes near automation systems of power utilities (UAS, utility automation system), such as substation automation systems (SAS). It defines the system and project management for UAS with communication between intelligent electronic devices (IEDs) in the substation respective plant and the related system requirements.

2 Normative references

Replace the existing reference to IEC 61850-6 with the following new reference:

IEC 61850-6, *Communication networks and systems for power utility automation – Part 6: Configuration description language for communication in power utility automation systems related to IEDs*

Delete the references to IEC 81346-1 and IEC 81346-2.

4 Abbreviations

Add the following new abbreviations:

icd   IED capability description file

ICT   IED configuration tool

iid   instantiated IED description file

scd   substation configuration description file

SCT   system configuration tool

sed   system exchange description file

ssd   system specification description file

5 Engineering requirements

5.3.4 IED configuration tool

Replace the existing text of the fifth paragraph of 5.3.4 with the following new text:

The tool's data input module supports the interactive input of parameters as well as the import of the system description as created by means of the system configuration tool. The structure of input data should be technically oriented towards the process architecture, i.e. structured according to the hierarchical approach to substation, voltage level, bay, equipment and function.

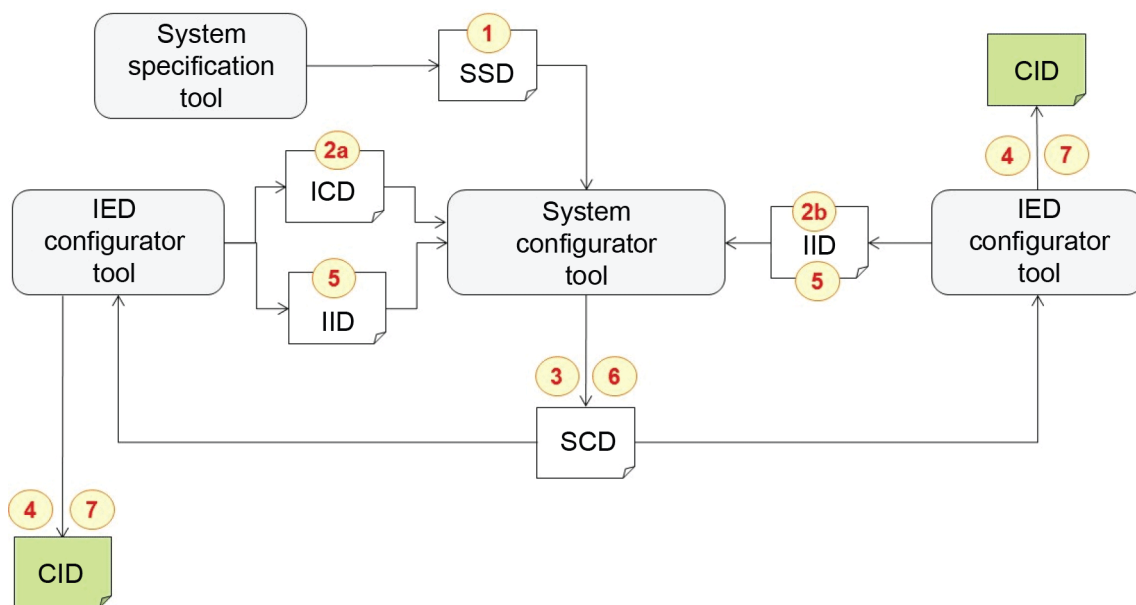*Replace the existing text of the first bullet with the following new text:*

– process (e.g. substation or line) identification;

Add the following new subclause after 5.3.5:

5.3.6 Engineering tool workflow

5.3.6.1 From system specification to project description

Typical use case: one centralised SCT working with several ICT (see Figure 12).

IEC

Figure 12 – Engineering workflow steps from system to project

Step 1: System Specification Tool (SST) creates an ssd file according to IEC 61850-6.

Step 2a: IED Configurator Tool (ICT) creates an icd file according to IEC 61850-6.

Step 2b: ICT creates an iid file according to part 6.

Step 3: System Configuration Tool (SCT) creates an scd file, using previous files: ssd, icd and/or iid.

Step 4: This SCD is used by an ICT to finalize configuration and publish an cid file to its related IED (configuration of dataflow).

The fourth step is the last except if the scd contents requires modifications from the ICT, which shall be transferred to the SCT in order to publish a updated scd. Then it is replaced by step 5 hereafter.

Step 5: ICT updates the IED description based on the further IED configuration needs and on system configuration needs provided by SCT in step 3. The ICT exports to the SCT the updated configuration description via the iid file.

Step 6: SCT publishes a updated scd file taking into account information described by previous IID.

Step 7: ICT publishes the updated cid file to send to the IED, using the scd published on step 6.

5.3.6.2 Change of system tool

Use case: considering an SCT A has to be replaced by an SCT B. The context is transferred with an scd exported from the SCT A.

The creation of the project with SCT A is similar to the previous use case and is assumed to be done before the replacement of SCT A as classical project engineering as shown in Figure 13.

NOTE Changing an SCT is always done with the purpose of updating / upgrading the system configuration with features that previous SCT does not support.
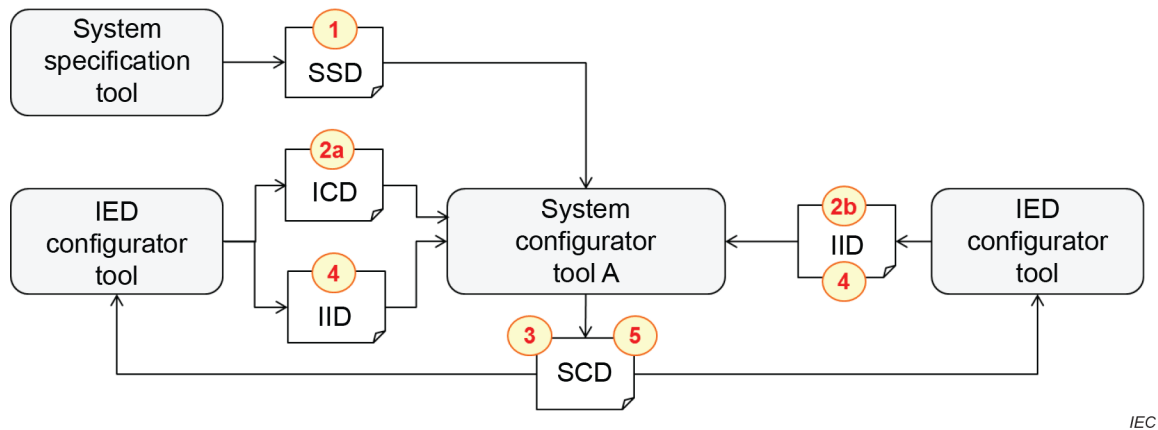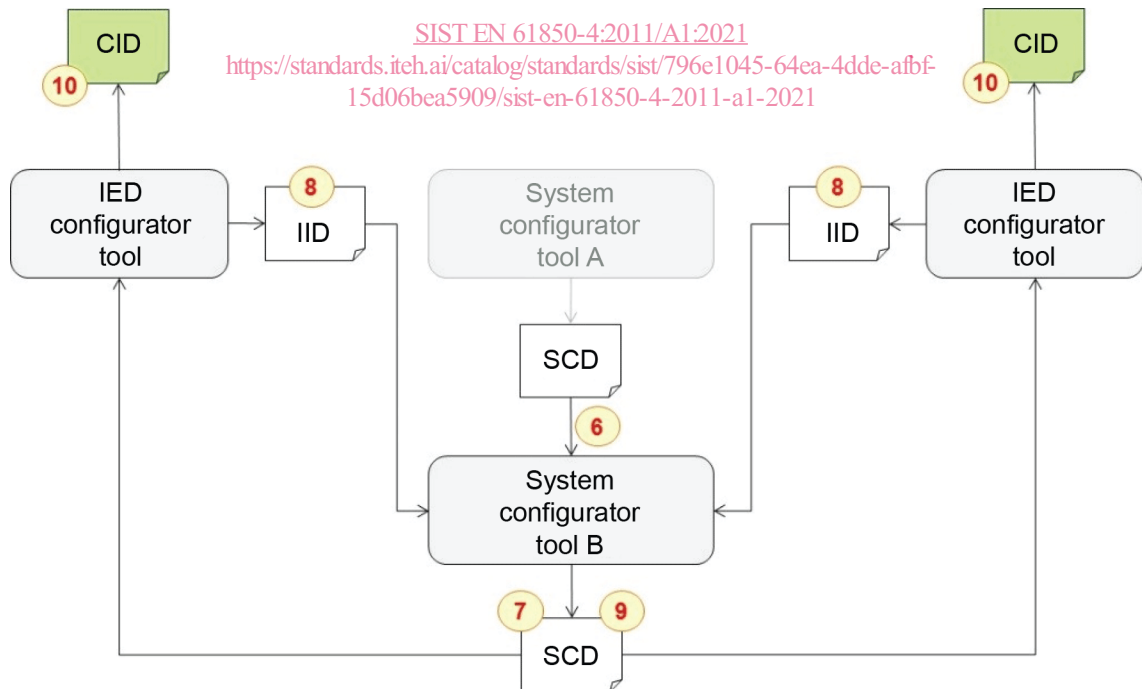
Figure 13 – Change of system tool first stage

Step 1: System Specification Tool (SST) creates an ssd.

Step 2a: IED Configurator Tool (ICT) creates an icd.

Step 2b: ICT creates an iid as a first instantiation.

Step 3: SCT creates an scd, using previous files: ssd, icd and iid.

Step 4: ICTs create iid using the scd issued on step 3.

Step 5: SCT publishes a new scd taking into account information described by previous iid.

Hereafter the second stage, the SCT B uses the scd provided by the SCT A as shown in Figure 14.

Figure 14 – Change of system tool second stage

Step 6: SCD to be transferred by SCT A to SCT B. Even if that does not appear on the scheme, it is strongly recommended to also transfer the latest version of all icd files.

Step 7: SCT B updates the scd, using previous scd created by SCT A (previous step).

Step 8: ICTs create iid using the scd issued on step 7.

Step 9: SCT publishes a new scd.